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Functional Overlay: An Illegitimate Diagnosis?

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Functional overlay is not a recognized psychiatric diagnosis. Evaluating functional overlay and differentiating between this concept and organic conditions is important in medicolegal areas in which financial values are placed on pain and disability. Functional overlay is not malingering: the former is based on preconscious or unconscious mechanisms, the latter is consciously induced.

In considering psychologic reactions to pain and disability, a gradient of simulation, malingering, symptom exaggeration, overvaluation, functional overlay and hysteria is useful. The dynamics of overlay are a combination of anxiety from body-image distortion and depression from decreased efficiency of the body, as well as the resulting psychosocial disruption in a patient's life.

THE DESCRIPTION *functional overlay* is an out-of-wedlock term, a bastard offspring of malingering and hysteria. Neither the current *Diagnostic and Statistical Manual of Mental Disorders* by the American Psychiatric Association (*DSM II*, 1968)[1] nor the thoroughly revised third edition of the manual, still in draft form,[2] includes this term. Hinsie's *Psychiatric Dictionary*[3] does not define the phrase, nor does Dorland's *Medical Dictionary*.[4] Although the literature regarding this condition is sparse, functional overlay is a matter of daily experience for physicians, especially orthopedic surgeons, neurosurgeons, neuropsychiatrists and physiatrists working with medicolegal matters. Formal medicine does not acknowledge the term. Nonetheless, the need to advise courts and attorneys, who attempt to assign financial values to pain and disability, forces physicians to accept the concept.

There are no medical tests to measure the extent of emotional reactions to injury: functional overlay cannot be confirmed objectively. It is not a diagnosis. Still the concept has concrete meaning in medicolegal areas and physicians are called upon to assist the law in differentiating between legitimate diagnoses and descriptive phrases such as functional overlay. A case chosen from hundreds seen every day by those who deal with traumatology will illustrate the problem of evaluating functional overlay.

Report of a Case

A divorced woman in her 50's was driving a car at a slow speed when the left front wheel was struck by a car rounding a corner. The impact was minor. She was bounced around, striking the door jamb to her left with her head. She felt

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dazed but did not lose consciousness. For three days she did not seek medical help even though headache, numbness in the right hand and leg, double vision (reportedly), neck pain, fatigue and nervousness occurred. Examination by her practitioner resulted in a diagnosis of "transient cerebral ischemia" following "whiplash." Conservative treatment was of no benefit.

The woman was referred to a neurosurgeon, an orthopedic surgeon, a neurologist and a physiatrist. A full workup (scan, x-ray studies and the like) in a hospital showed no abnormalities. Cervical x-ray films were normal and "moderate degenerative osteoarthritis" of the lumbar spine was noted. The neurosurgeon found the results of examination "essentially negative"; the orthopedic surgeon diagnosed "radiculopathy" in the cervical area; the physiatrist found possible carpal tunnel syndrome, with indications of hysteria; a neurologist diagnosed "possible radiculopathy with functional overlay"; the primary care physician diagnosed "posttraumatic headache."

Symptoms continued unabated for two years. The patient said that she had difficulty concentrating, and that weakness in the right hand (to the point of being unable to hold a pencil), nervous tension and persistence of the original symptoms were present. Finally, as a result of disability, she had to retire after 20 years as a statistician. During the two years following the accident her work, which until then had been reported as outstanding, had deteriorated. Retirement resulted in embarrassment, depression and especially a loss of the companionship of her fellow workers ("They were my daytime family," she explained).

Her medical history indicated treatment of hypertension, tachycardia, cerebral arteriosclerosis, arthritis, nervous tension and kidney problems, none of which had interfered with her work or social life until the accident, 1½ years before retirement.

Though the patient had not been negligent and had not caused the accident, on examination two years later she was depressed and tense, and had bitter complaints regarding her condition. She had always been proud of her self-sufficiency, health, professional proficiency, and capacity for friendship with supervisor and co-workers—and these all were destroyed. The weakness of her right hand was her greatest physical concern.

Results of neurological examination showed a few signs of questionable significance: the right hand was extremely weak with no change in reflexes, sensory deficit, limitation of movement, organic tremor or actual motor impairment. The deterioration that the patient said she felt could not be shown on repeated examination. A *diagnosis* of functional overlay was confirmed.

It was clear that the patient's disabilities had psychologic roots; for example, unanticipated low self-esteem, confirmed when separation anxiety developed after the patient's retirement. The clinical problem was to estimate whether the persistence of symptoms related to the accident.

Discussion

In distinguishing between malingering, functional overlay and hysteria, medicolegal experts may join some attorneys and other nonmedical persons in regarding functional overlay as a meretricious claim on the part of a disabled litigant. Others may seek explanations in the murky waters of the unconscious. In any event, the concept of functional overlay is shadowy, less malingered than malingering, less neurotic than hysteria, and yet seemingly partaking of both. In short, functional overlay is a pariah in the universe of respectable diagnoses.

Barham Carter, writing in 1967 in the *Lancet*,[5] identifies functional overlay as lying "between general medicine, neurology and psychiatry . . . a borderland difficult to define . . . belonging to none of these disciplines." He offers the following classification of such conditions: (1) conversion reactions of hysterical type, (2) anxiety and depressive reactions and (3) environmental-stress reactions—that is, personal and financial problems. Carter urged that "more time than usual be spent in evaluating functional overlay . . . [and] a change in the attitude of vague annoyance and resentment . . . common among some doctors towards these patients."

Another British investigator, Henry Miller,[6] reviewed 4,000 cases of *accident neurosis* (1961) in which malingering and "gross functional complaints following injury" were evaluated. This phrase can be construed in American usage as functional overlay. Miller and Cartlidge[7] stated in a 1972 paper that "simulation, exaggeration and willfully false . . . symptoms" were closely allied. No mention of functional overlay as such was made in the paper but the authors' views are shown in their statement that "medical simulation occurs only where it is hoped that it will yield personal or economic gain." Presumably,

Miller and Cartlidge included primary and secondary gain as motives for simulation.

It is fair to say that most physicians would agree that gain of some kind is a factor in all the conditions under discussion. In the older literature on the subject, simulation, malingering and hysteria were lumped together as manifestations of gain. Therefore, Walter Schaller, in the *Journal of the American Medical Association* stated in 1939[8]

> Every posttraumatic neurosis is not malingery, but a subconscious simulator . . . every hysteric is a simulator [representing] a milder implication of motive and conduct [than found in] the malingerer.

The more moderate view, voiced in Noyes[1] classic psychiatric text (1955),[9] is

> Some hysterical phenomena are on the borderline between psychoneurotic reactions and simulation and therefore come close to malingering. Just where as to awareness, the line between simulation and hysteria should be drawn is therefore often arbitrary.

As Noyes hinted, malingering itself can be considered a kind of neurosis.

To begin with, various states can be plainly defined. *Simulation* is a state in which a person assumes pain and disability; it is an imitation of illness without a cause or organic basis. *Malingering* is also a state in which a person feigns illness but the assumed state may be based on a preceding event—for example, an injury. For practical purposes the terms *simulation* and *malingering* are synonymous. *Exaggeration* is a magnification of pain and disability. *Overvaluation* represents a reaction to pain which may seem feigned but is not. *Functional overlay* is an emotional superimposition on the original symptoms of an injury or illness. *Hysteria*—that is, conversion hysteria—is a physical representation of an emotional conflict.

One further condition requires consideration in these distinctions, namely *psychophysiological disorders,* defined in the American Psychiatric Association's *DSM II* as "caused by emotional factors . . . usually under autonomic nervous system innervation. . . ."[1(p48)] Examples are paroxysmal tachycardia, hyperventilation, irritable colon and the like. Here the autonomic nervous system produces symptoms commonly associated with anxiety in which the condition is neurogenic and not primarily psychogenic.

A Gradient of Psychiatric Reactions

Obviously, an infinite variety of overlapping occurs in these conditions. The task of differentiating each reaction is made more difficult by the fact that a gradient exists in reactions to pain and disability, starting with simulation, followed closely by malingering, exaggeration and overvaluation and, finally, functional overlay and hysterical neurosis. The gradient parallels changes in motivation from conscious maneuvering to the influence of preconscious and unconscious mechanisms. The first three steps in the gradient are characterized by goals of primary gain and the last three by goals of secondary gain. The legal problem is determining the validity of each reaction in relation to court settlements and awards. The psychiatric problems, more narrowly, become the degree of stress on the ego caused by the injury or illness.

The medical experts' task is to measure deviations from *normal* as it is understood by the examiners. In essence, the task involves interpreting how much emotional reaction is normal. Generally, such interpretations are based on medical knowledge derived from vast experience with illnesses and injuries and tinctured by varying degrees of intuition. In such cases, intuition is sometimes aided by a physican's personal experience with injury as well as a complex syncytium of social attitudes, cultural influences and biases. In any event, the judgment is generally regarded as correct and is used to establish the amount of pain and disability a patient may suffer from a particular injury. It is fair to say that this estimation of the intensity and duration that a patient *should have* suffered has been relied on by the courts.

There is a problem with the concepts of *average* and *normal* in relation to the highly subjective character of pain. *Webster's Third New International Dictionary* defines normal as "conformed to a type, standard, or regular pattern" and the *Oxford English Dictionary* defines it as "according to a norm." Koranyi,[10] in a recent article, "The Normal and Its Deviations," tried to find acceptable criteria for normality in measuring mental reactions. He quoted, among others, Marie Jahoda's attempt to define normality as "Absence of mental illness, normalcy of behavior, adjustment to environment, internal unity of personality and correct conception of reality." From this tautologous statement and other more cryptic definitions, Koranyi concluded that the concept of normality is a "known ambiguity." However, lawyers, physicians and others recognize certain dimensions of normality. To this am-

biguity we may add that reactions to pain and disability are highly individual and each patient regards his reaction as normal.

Effects on Body Image

This attitude is not necessarily meretricious or self-seeking. It receives force from a preoccupation with the effects of injury on the body image. Paul Schilder,[11] working with Henry Head's concept of postural model (body schema) that is built up of sensory impressions including proprioceptive sensations, studied body-image distortions in patients with organic and psychological disease. He showed how intoxication, injury, brain disease, as well as neurosis and psychosis, altered the body image, the "tri-dimensional image everybody has about himself." The optic, tactile, proprioceptive and vestibular sensations, which make up the body image, form a gestalt which lies quiescent in the psyche until a disruptive event distorts the image and brings it to consciousness. Such distortions give rise to varying degrees of anxiety. Common examples are seen in intoxication by alcohol (hallucinosis),[12] and in toxic states from methaqualone, phencyclidine (PCP) and the like. Sensations are at first exhilarating, then become alarming as enlargement of the head, lengthening or shortening of the limbs, space and time expansion or contraction, and anesthesia or paresthesia distort the body image. Rupture of body-image integrity jars a person's narcissism (primary narcissism in Freud's terminology) and results in anxiety and panic.

Pain added to the dysesthesia outlined above enhances anxiety from body-image distortion. Pain within or on the surface of the body frequently brings about an overemphasis of the injured area. To the patient an aching gut is all absorbing; edema appears enormous; hemorrhage is frightening; a fracture is irreparable. A sufferer's immediate reaction is to physically protect the area injured. A parallel psychological reaction (Schilder) is neglecting sensations from the rest of the body in favor of those from the injured area—that is, the libido flows to the painful organ. Gestalt psychologists explain this automatic mechanism as a move of the injured part into the foreground of perception. In modern psychiatric parlance (1978)[13] the "fixed mechanical-organic belief structure with regard to bodily functions and malfunctions" is stimulated. Therefore pain, when persistent, brings the body-schema distortion closer to the perceptive ego. The series of psychological events sketched above forms the basis for functional overlay.

Sociopsychological Aspects

In addition, certain sociopsychological attitudes support the development of functional overlay. A patient who suffers disability and pain has an alteration in his social attitudes, the so-called "personality change." Workers in pain clinics have observed the same realignment of life patterns in patients with the chronic intractable benign pain syndrome (CIBPS). Here, in the absence of demonstrable disease or physiological abnormality, "pain is both a function of and a stimulus to abnormal illness behavior" (Sternbach). Pinsky[14] expresses the predicament as "The CIBPS patient seems to have ongoing pain and suffering as its corner stone, accompanied by progressive psychosocial upheaval. . . ." When a patient with chronic intractable benign pain syndrome is involved in litigation, certain specific sociopsychologic trends can be identified. The most notable is resentment, particularly in cases in which the accident was unanticipated and caused pain.

A patient projects his hostility, whether suppressed or expressed, on the "enemy," an equipment failure, uncontrolled drivers, assailants or fate. These attitudes expand to include the third parties (insurance companies), attorneys on both sides, the legal system, examining physicians and the courts. Attitudes related to paranoia that are not truly delusional spread to society. Long repressed hostilities based on previous accidents surface and a patient's personality takes on a fixed stance of irritability and vague antisociality. The trauma patients are depressed, impatient, and alternately belligerent toward and dependent on the physician. They address themselves unconsciously to the community through irritability toward the family, medical personnel and attorneys. In the medical office, a patient's irritation is shown by lack of cooperation during an interview or examination, questioning the competence of the examiner or open opposition. On the other hand a patient may be cloying, passive or ingratiating: he becomes resigned to numerous examinations, depositions and conferences required in complex medicolegal problems.

If hostility is aroused in a patient by time-consuming negotiations, attorneys may suspect

that the patient is feigning illness or has excess interest in financial awards. If a patient is resigned, attorneys may suspect that the patient's condition is hysterical. Experience with hundreds of trauma patients has shown that the intricate reactions and counterreactions indigenous to the local process do influence functional overflow. From a patient's position, it is undeniable that a sufferer of an accident is equipped with less strength of ego to face his problem after the injury.

What emerges is the concept that functional overlay represents a complex sociopsychological reaction compounded of unconscious dependence, anxiety from body-image distortion, resentment and a revival of faintly paranoid attitudes toward society in persons involved in accidents. It should not be confused with malingering or conversion hysteria.

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